Goodway Technologies

Presents

ED 2000 Electronic De-Scaling System

Electronic De-Scaling System

An Innovative Solution

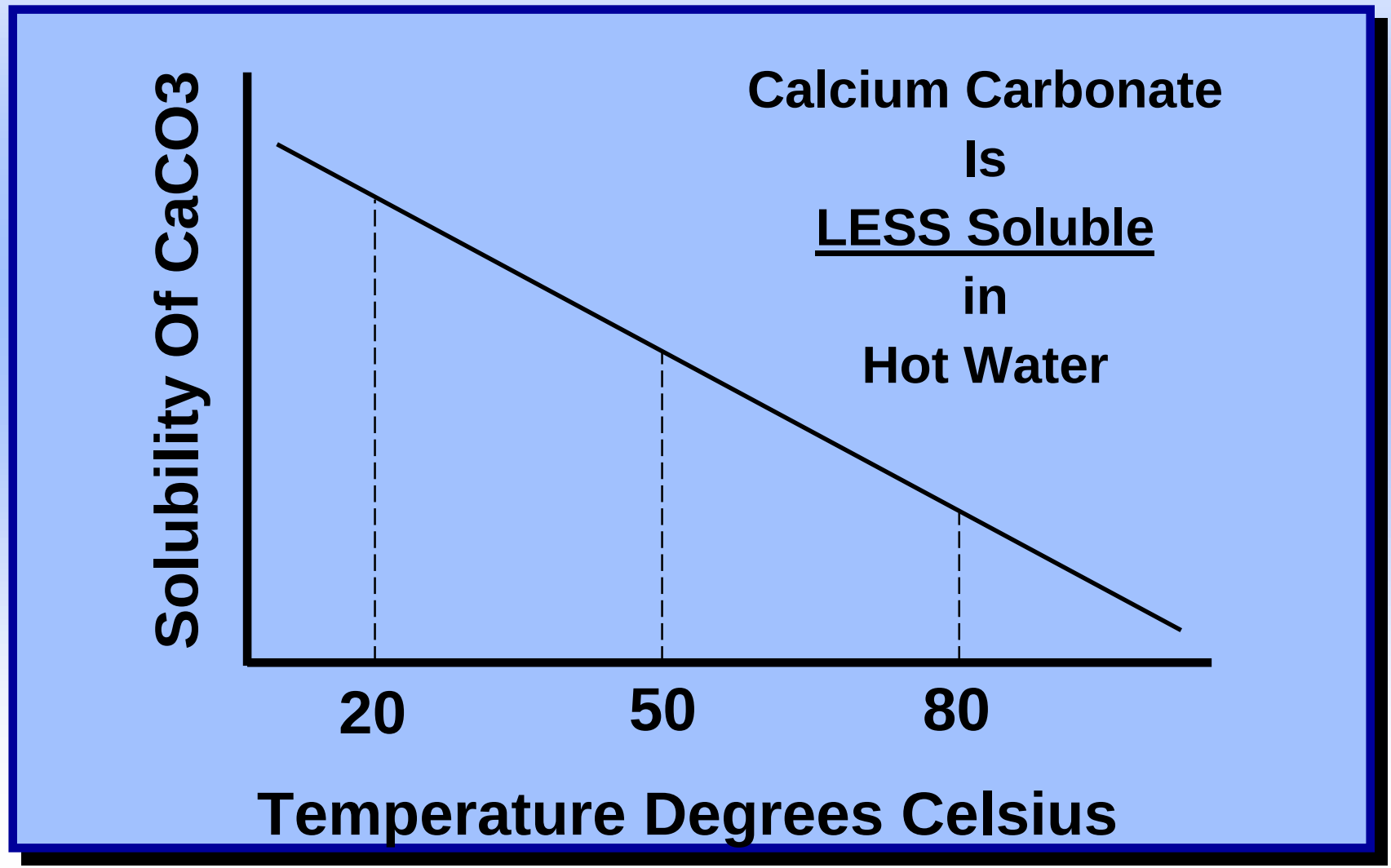
To Prevent

Mineral Precipitation Scaling

Scale Formation

- Condenser Water
  - Mineral Ions
    - Calcium, Magnesium, Etc….
  - Increased Concentration
    - Cooling Tower Evaporation
    - Make-Up Water
    - Drift
  - Uncontrolled Precipitation
    - Untreated Mineral Fouling

How Does Scale Form ?



Adhering to Condenser Tubes

Electrostatic Attraction

Dissolved Calcium Ions $Ca^{++} + 2HCO_3$

Uncontrolled Precipitation

Insoluble Crystals $CaCO_3 + H_2CO_3$

Scale Build-up

Scale

Positively Charged Calcium Salts

Stick To

Negatively Charged Metal Surfaces

Product Overview

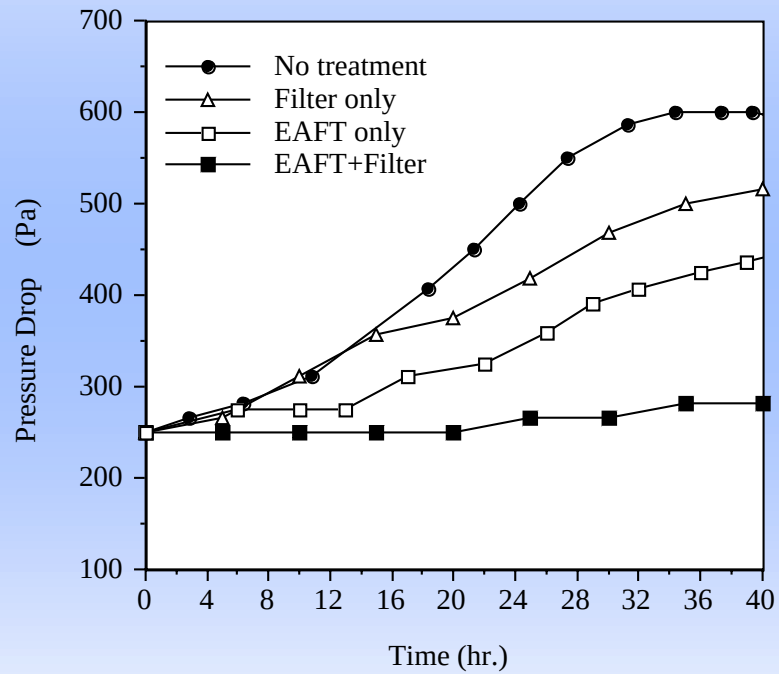
- Developed & Tested at Drexel University
  - Theory Established
  - Lab Validated
  - Field Validated
- Improvements Patented
- Reliable & Consistent Performance

Product Validation

- International Journal of Heat & Mass Transfer
- Compact Heat Exchanger Conference
- 1999 ASHRAE Conference
- York International
- API Heat Transfer
- Alfa Laval Thermal

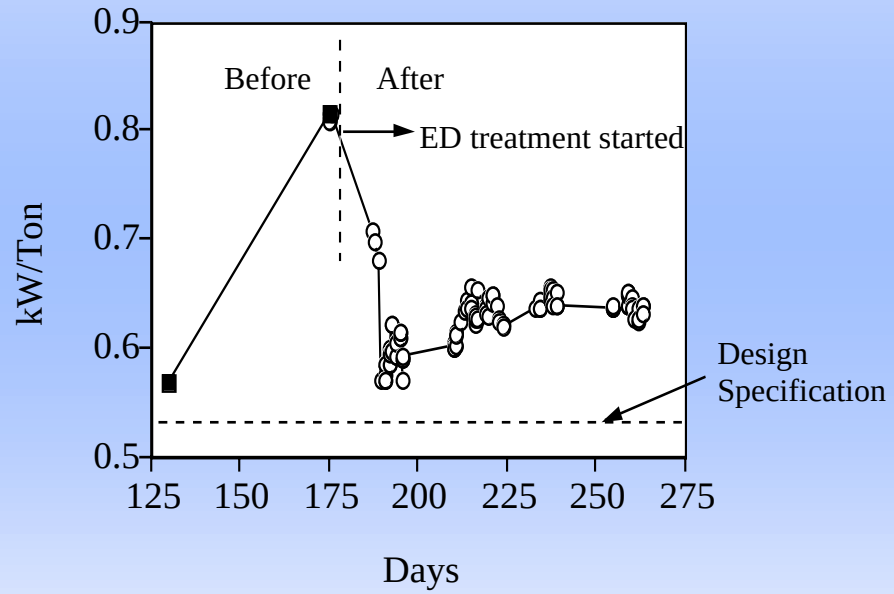
ED 2000 Laboratory Validation

- International Journal of Heat and Mass Transfer
  - Use of ED 2000 with filtration
  - 1000 ppm
  - 1.5 gpm
  - 26-80 degrees C

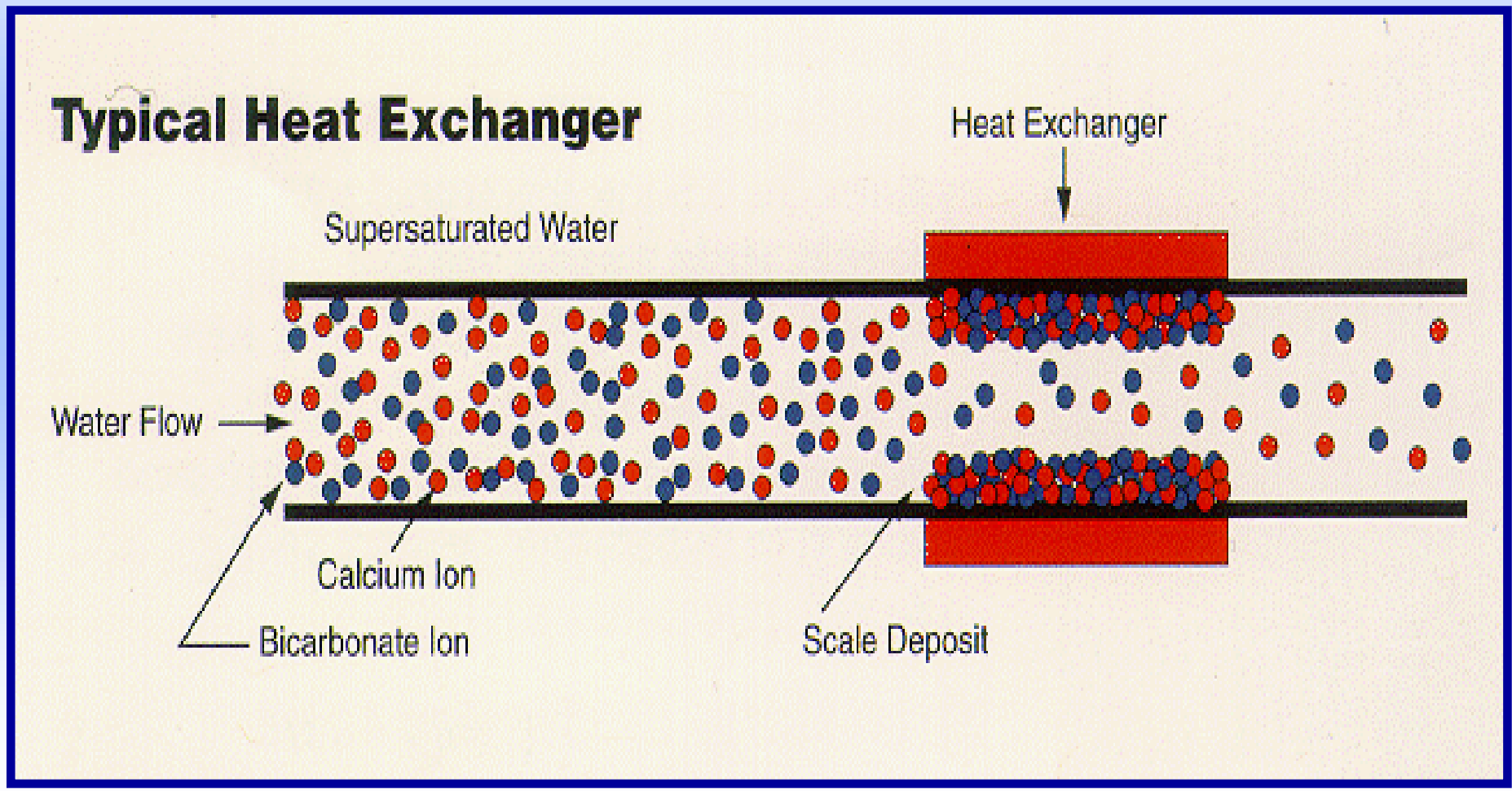


ED 2000 Field Validation

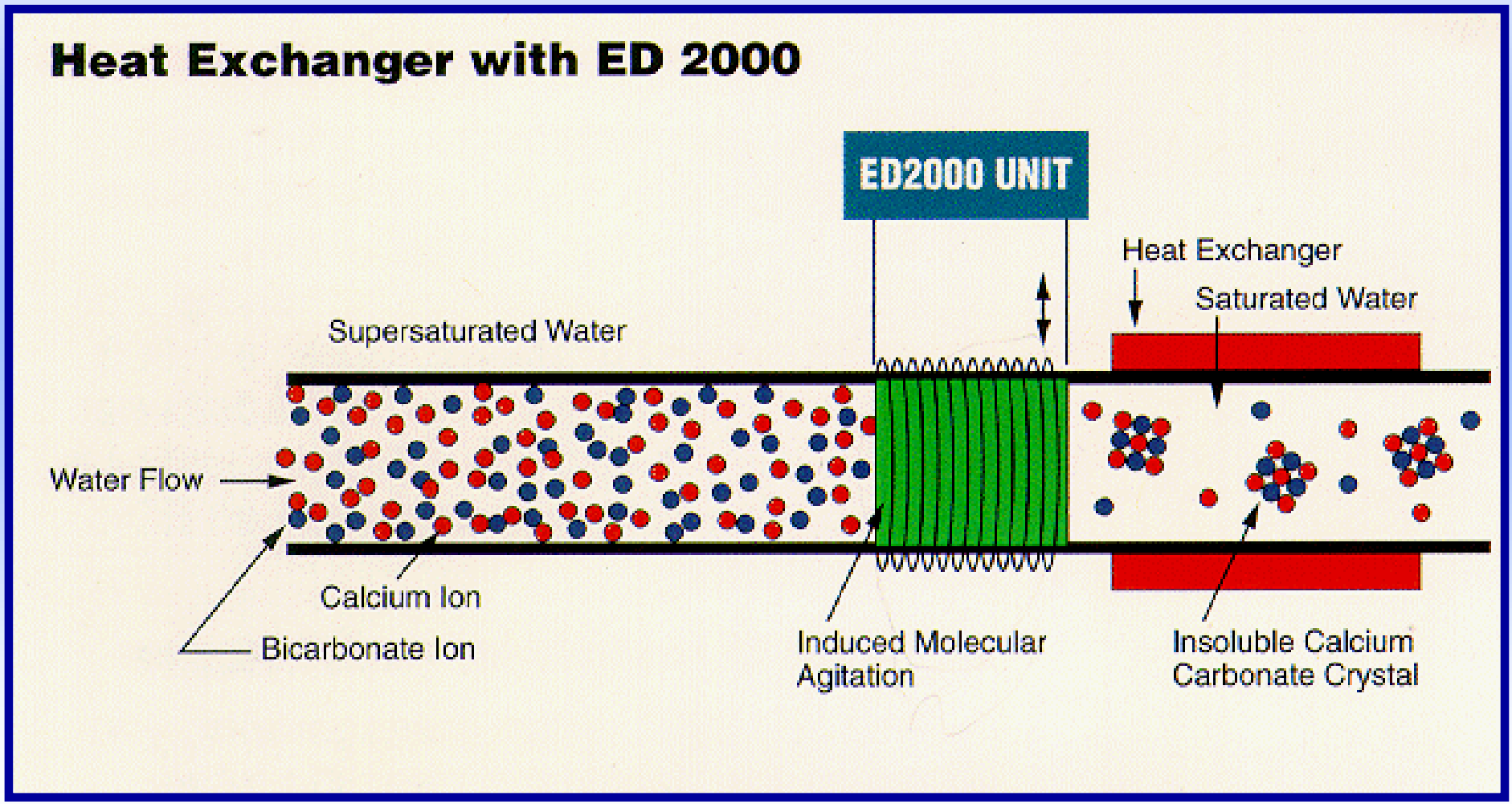
- Results Reported at the 1999 ASHRAE Meeting
  - Use of ED 2000
  - 450 ton chillers
  - 1200-1500 hours
  - With and without ED 2000



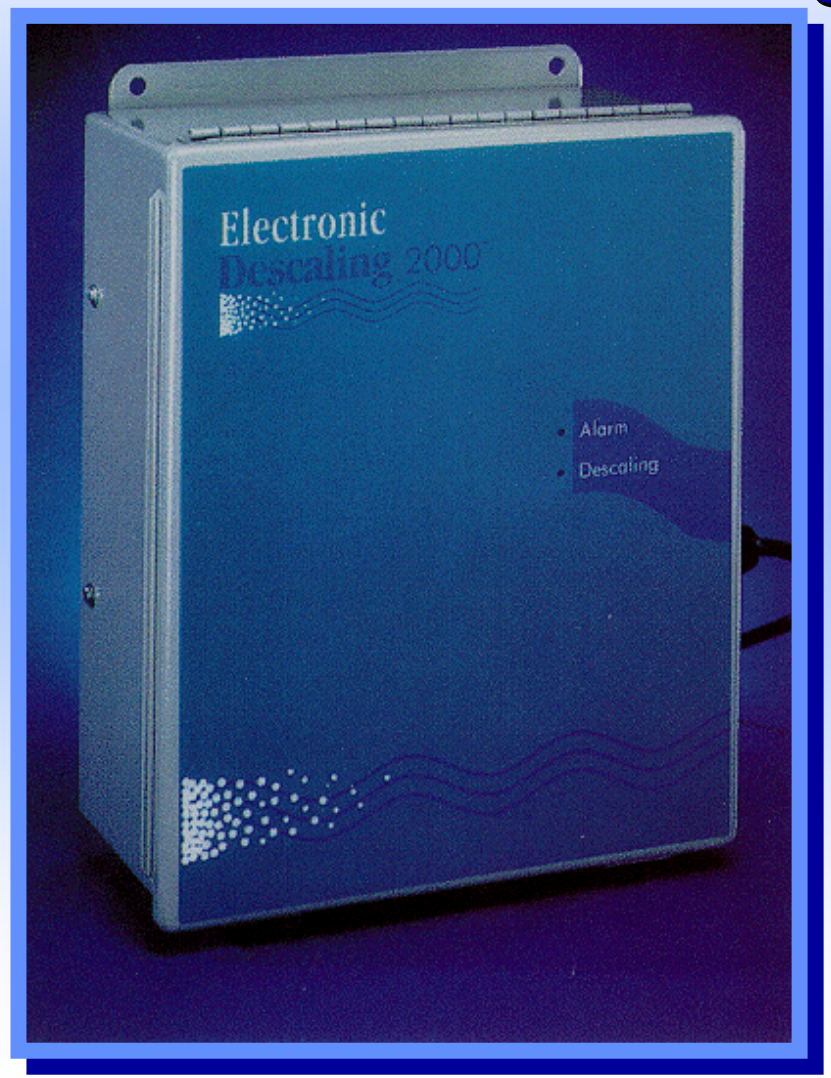
Uncontrolled Precipitation



Controlled Precipitation



ED 2000
Electronic Anti-Fouling System



ED 2000 Coil & Enclosure

- Up to 20” Pipe Diameter
- Prewrapped Solenoid Coil
  - UL Rated NEMA 12 Enclosure
- ABS Weather Resistant Enclosure
  - Optional SS Enclosure
- 110 / 220 Volts
- Installs in Less Than 1 Hour on a Simple Installation

Benefits

- Save Money
  - Reduce Energy Costs
    - Heating Systems
    - Cooling Systems
  - Extends Life of Boiler & Condenser Tubes
    - Eliminates Chemical Cleaning of Tubes
    - Enhances Brush Cleaning
  - One - Two Year Payback